

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Amended) A patient-shielding and coil system[,] for use with a surgical navigation system that determines the position and orientation of a surgical probe within a surgical region of a patient, said patient-shielding and coil system comprising:
a coil wire electrically coupled to a source of electrical current, said coil wire operable to generate a magnetic field for use in navigating the surgical probe;
an electrically conductive surface;
insulation material situated between the coil wire and the conductive surface; and
a drain wire connected to the conductive surface and forming a capacitive current loop with respect to the source, wherein capacitive current generated by said magnetic field is reduced in the patient while the magnetic field used for navigation substantially remains the same.

2. (Amended) [A] The system according to Claim 1, wherein the conductive surface has a resistance of substantially on the order of 1 ohm per square.

3. (Amended) [A] The system according to Claim 1, wherein the electrically conductive surface forms an incomplete a complete enclosure of the coil wire, except for a small section, so as to create an incomplete electrical circuit.

4. (Amended) [A] The system according to Claim 1, wherein the conductive surface includes an upper portion and a lower portion.

5. (Amended) [A] The system according to Claim 1, wherein the conductive surface includes a polyester foil, vapor deposited with aluminum.

6. (New) The system according to Claim 1, wherein the conductive surface is of a thin film material.

7. (New) The system according to Claim 1, wherein the surgical region includes a platform embedded with said coil wire for generating said magnetic field.

8. (New) The system according to Claim 1, wherein at least a portion of the coil wire is a twisted pair.

9. (New) The system according to Claim 1, wherein the magnetic field is a time varying magnetic field.

10. (New) The system according to Claim 9, wherein small residual effects of the electrically conductive surface can be eliminated by a calibration of the navigation fields.

11. (New) The system according to Claim 1, wherein a coil form surrounds a portion of the coil wire where the coil form has a rectangular shape.

12. (New) The system according to Claim 11, wherein a cross-section of said coil form is U-shaped.

13. (New) The system according to Claim 12, wherein said electrically conductive surface includes a corresponding U-shaped portion and a separate upper portion, wherein the U-shaped portion and upper portion are connected by a conductive material.

14. (New) The system according to Claim 13, wherein said upper and U-shaped electrically conductive surface defines a gap along said coil form.

15. (New) The system according to Claim 12, wherein said U-shaped coil form retains a plurality of loops of said coil wire.

16. (New) The system according to Claim 1, wherein the patient-shielding coil system is formed within an operating room table.

17. (New) The system according to Claim 1, wherein ends of said coil wire are wrapped upon one another as a twisted pair and said electrically conductive surface substantially surrounds said twisted pair.